

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	1 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

APPLICANT'S NAME: M. C. GILL CORPORATION

MAILING ADDRESS: 4076 EASY STREET
EL MONTE, CA 91731

EQUIPMENT LOCATION: SAME AS ABOVE

EQUIPMENT DESCRIPTION:

Application no. 524461:

TITLE V PERMIT REVISION, DE MINIMIS SIGNIFICANT

Application no. 524462, New Construction of Prepregger #3 with Dryer Oven (D56-D57) to be vented to RTO #6 (C47):
(see table below)

Application no. 524463, Modification of RTO #6 (C47, Prev. A/N 456662) to vent New Pre-Pregger #3 (D56-D57):
(see table below)

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 2: DIP TANK IMPREGNATING OPERATION					
System 3: PREPREGGER #2 AND PREPREGGER #3					
PROCESS TANK, UNHEATED, TRAPEZOIDAL DIP, PREPREGGER NO. 3, WIDTH: 2 FT; HEIGHT: 6 IN.; LENGTH: 5 FT A/N: 524462	D56	C47		VOC: (9) [RULE 1128, 3-8-1996; RULE 1171, 11-7-2003; RULE 1171, 5-1-2009]	A63.8, A63.11, H23.3, K67.9
OVEN, C.A. LITZLER CORP., PREPREGGER NO. 3, PROCESS HEAT IS FROM AFTERBURNER/RTO #6 (C47) A/N: 524462	D57	C47			A63.8, A63.11, B59.9, K67.9
AFTERBURNER, HOT ROCK #6, ADWEST, MODEL NO. RETOX 9.0, RTO 95, 10 FT W. X 22 FT. 10 IN. L. X 8 FT H., NATURAL GAS, WITH 2 CERAMIC BEDS, A 7.5 HP. COMB. AIR FAN, A 50-HP. EXHAUST FAN & NAT. GAS INJECT, 2.5 MMBTU/HR A/N: 524463	C47	D16 D17 D20 D21 D22 D56 D57		CO: 2000 PPMV NATURAL GAS (5A) [RULE 407,4-2-1982]; NOX: 60 PPMV NATURAL GAS (5) [RULE 1147, 12-5-2008]; PM: (9) [RULE 404,2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409,8-7-1981]	A63.8, A72.3, B59.1, D182.1, E193.3, H23.5

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	2 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

HISTORY:

M.C. Gill Corp. submitted application nos. 524461-524463 on June 28, 2011. A/N 524462 was submitted for new dip coat impregnating and drying equipment, pre-pregger #3 (D56 and D57). It will be vented to an existing regenerative thermal oxidizer, RTO #6 (C47), which is currently operating under A/N 456662 (PO #G7244). A/N 524463 was submitted for the modification of RTO #6 to include the venting of the new impregnating equipment, and the expansion from two to three ceramic beds.

RTO #6 is currently being used to control VOC emissions from pre-pregger #2 (D16-D17), an existing adhesive coating equipment (D20), dip coater (D21) and drying oven (D22).

The operation of the new dip coat impregnating and drying equipment (D56-D57) will not result in an increase of emissions from the facility since this new equipment will operate under the existing group VOC cap of 5070 lbs per month. Emission offsets will not be required. In addition, the applicant has agreed to a permit condition that limits the VOC emissions from this equipment (D56-D57) to ≤ 900 lbs/month. Therefore, public notice requirements will not apply. The VOC emissions from this operation will be vented to RTO #6, and controlled by at least 98%, as verified by a previous source test. The modification of the existing RTO #6 (C47) will not result in an increase of any emissions. Its natural gas burner will remain the same and continue to be used for start-up only.

This company is a Title V facility. The Title V renewal permit was issued on 10/13/2010. This project is the second revision since the last renewal. A/N 524461 was submitted for a de minimis significant permit revision.

According to the compliance data base, this company was issued a notice to comply (NC #E00188) on July 10, 2010 for the company to demonstrate compliance by conducting a source test by 7/1/2010 for the oven under PO #M17862 (D4). However, since the natural gas-fired oven has a maximum rating of 1.26 mmBTU/hr, the facility indicated that the equipment is exempt from permitting requirements under Rule 219(b)(2). The company was expected to submit a request to the District to inactivate that permit. The inactivation was finally completed on 11/3/11. This equipment will be removed from Section D. No other notices to comply or notices of violation have been issued to the facility in the past two years.

PROCESS DESCRIPTION:

This company manufactures laminated honeycomb panels. These panels are used in airplanes for commercial and military use. In the new dip coat impregnating equipment, pre-pregger #3 (D56-D57), glass, carbon fiber or other filaments are pulled from multi-position creels (1) through a resin-filled dip tank (2). Various epoxy and phenolic resin solutions are used in this dip tank. The pull rolls (6) at the far end of the oven are powered by a 2-hp motor. As the material is drawn through the resin bath, it is saturated with resin, which is then squeegeed off by a pressure bag. Unused resin returns to the tank. The material is laid on a release paper film (3) and drawn into the curing oven (4). The oven zones are set at varying temperatures to properly cure the resin ranging from 125°F to 350°F.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	3 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

The existing RTO #6 (C47) will be modified to vent, as well as provide the process heat to, the pre-pregger #3 drying oven (D57). This oven does not have its own natural gas-fired burner. Also, the oven will be within a permanent total enclosure (PTE) that vents to the RTO #6 (C47). This RTO #6 is an existing Adwest hot rock-type, dual-chamber, regenerative thermal oxidizer (RETOX 9.0 RTO95). It has a low-NO_x, natural gas-fired burner that is fired only during start-up, which typically lasts up to one hour from a cold start. Upon reaching the ignition point in the combustion chamber (1500-1600°F), the burner is shut off. There is expected to be sufficiently high VOC concentration in the process stream for the destruction process to be self-sustaining. In this case, no additional heat is required to maintain combustion. However, if needed, the temperature can be maintained with flameless natural gas injection (non-NO_x forming). The dual chambers allow for reverse flow and pre-conditioning of the influent. This allows for an approx. maximum 95% heat recovery. The RTO is designed, and has been demonstrated, to achieve a minimum VOC destruction efficiency of 98%.

The maximum operating schedule of the facility will be 24 hr/day, 7 day/wk, and 52 wk/yr and the average operating time is 16 hr/day, 6 day/week, 52 week/year.

EMISSION CALCULATIONS:

Thermal Oxidizer:

There will be no changes to the emissions generated by the continued operation of the RTO #6 (C47). Therefore, combustion emissions will be the same as for the previous permit under A/N 456662. See the attached AEIS and NSR sheets in the file for A/N 524463.

Summary of Thermal Oxidizer Emissions NSR, 30-day

	NO_x (lb/day)	CO (lb/day)	PM₁₀ (lb/day)
RTO #6 (C47) (A/N 524463)	7	2	0

RTO Air Flow:

Design maximum air flow capacity, RTO #6 (C47)	9,000 scfm (variable)
New dip coat impregnating equipment, pre-pregger #3 (D56-D57)	3,500 scfm (variable)
Dip coat impregnating equipment, pre-pregger #2 (D16-D17)	3,500 scfm (variable)
Adhesive coating operation (D20-D22)	1,500 scfm (variable)

The RTO #6 has a variable speed exhaust fan with a maximum air flow capacity of 9,000 scfm. The existing pre-pregger #2 curing oven (D17) has an approximate air flow of 3,500 each. This air flow is also variable and ducting to the RTO is dampered. The air flow from the new dip coat impregnating room, pre-pregger #3, is also dampered, and the flow rate is variable with an approximate air flow rate of 3,500 scfm.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	4 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

VOC Emissions from Prepregger #3 and oven (D56-D57) under A/N 524462:

The VOC emissions associated with the new prepregger and oven will be limited to 900 lb/month, as controlled by RTO #6 (C47), and will have the following emissions apply for purposes of AEIS and NSR.

$$R2_{\text{VOC}} = 30 \frac{\text{lb}}{\text{day}} \rightarrow 1.25 \frac{\text{lb}}{\text{hr}} @ 24 \frac{\text{hrs}}{\text{day}}$$

$$R1_{\text{VOC}} = \frac{R2_{\text{VOC}}}{(1 - 0.98)} = 1500 \frac{\text{lbs VOC}}{\text{day}} \rightarrow 62.5 \frac{\text{lbs VOC}}{\text{hr}} @ 24 \frac{\text{hrs}}{\text{day}}$$

Toxics:

See the spreadsheet in the file for A/N 524462 for TAC emission calculations (based on 900 lb/mo VOC)

**Summary of Emissions from Prepregger #3 after RTO
NSR, 30-day**

Toxic Air Contaminant	Emission Rates	
	(lb/hr)	(lb/yr)
acrylonitrile	0.055	478
butadiene	0.055	478
ethylbenzene	0.046	404
ethylene glycol monomethyl ether	1.304	11393
formaldehyde	0.0089	78
isopropanol	0.117	1023
methyl alcohol	0.163	1424
phenol	0.237	2071
phthalic anhydride	0.0656	574
toluene	1.304	11393
xylene	0.081	711

RULES AND REGULATIONS

RULE 212: SIGNIFICANT PROJECT PUBLIC NOTIFICATION

Rule 212(c)(1): There is no school within 1000 feet of the plant. Therefore, public notice is not required by this paragraph.

Rule 212(c)(2): Public notice will not be required by this paragraph since there will be no emission increase from the facility from this project; the new prepregger #3 will operate under the existing group VOC cap of 5070 lb/mo.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	5 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

Rule 212(c)(3): The toxic emissions from the operation of this equipment will result in an MICR that is below 1×10^{-6} . Therefore, public notice is not required by this paragraph.

Rule 212(g): Emissions from the new prepregger will be limited by permit condition to 900 lb VOC per month. Therefore, public notice shall not be required per this paragraph.

RULE 401: VISIBLE EMISSIONS

Visible emissions from the operation of this equipment are not expected. No complaints have been filed on this company.

RULE 402: NUISANCE

The operation of this equipment is not expected to cause a public nuisance. Although there were some odor complaints, the facility has not been issued any notices of violations for nuisance(s).

RULE 1128: PAPER, FABRIC, AND FILM COATING OPERATIONS

The materials processed through this dip coat impregnating and drying operation will comply with the VOC content requirements of this rule by venting to the existing RTO #6 (C47), which has been demonstrated to achieve a minimum 98% overall control efficiency [95% destruction efficiency and 90% collection efficiency per Rule 1128(d)]. A source test will be required to verify compliance after the new coating line is vented to the RTO. In addition, this control equipment will be required to be tested once every five years under Title V permit requirements. Compliance is expected.

REGULATION XIII:

The operation of the new dip coat impregnating and drying equipment (D56 and D57) will result in emissions of <900 lbs VOC/month, controlled when vented to the existing RTO #6 (C47). It will also be included under the existing group VOC cap of 5070 lbs VOC/month. In addition, the modification of the existing RTO #6 (C47) will not result in an increase of combustion emissions.

BACT The dip coat impregnating and drying equipment (D56 and D67) will be vented to the existing RTO #6 (C47), which has been demonstrated to achieve a minimum 98% overall control efficiency of VOC emissions. The RTO would satisfy BACT requirements for this source category. Compliance is expected.

Offsets: Emission offsets shall not be required as the VOC emissions from the dip coat impregnating and drying equipment will be included under the existing group VOC limit (5070 lbs/mo).

Modeling: Modeling is not required for VOC emissions, and there is no increase of combustion emissions through the modification of the RTO #6 (C47).

Rule 1401: NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS

There will be toxic air contaminant emissions from the operation of the new dip coat impregnating and drying equipment (D56-D57). These emissions will be controlled by an RTO, which satisfies T-BACT for this equipment category. The materials used may contain arsenic, lead and chromium. However, those compounds are not expected to become airborne in this dip process. Therefore, the emissions are not included in the risk calculations.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	6 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

Also, TAC emissions were calculated based on resin usage obtained from the applicant for similar equipment, pre-pregger #2 (D16-D17), operating 24 hrs/day, 6 days/week and 52 weeks/year during calendar year 2011. The result in MICR and HIA/HIC were calculated to be 2.44×10^{-9} (resid.) and $<<1.0$, respectively. The new pre-pregger #3 (D56-D57) will use the same mix of resins and could be expected to operate a maximum of 24 hrs/day, 7 days/wk and 52 wks/yr. Therefore, the pre-pregger #3 would be expected to emit a maximum of 1.15 times more than that calculated for pre-pregger #2. The maximum controlled VOC would be 86.3 lb VOC/mo (75.7×1.15), the MICR would be 2.81×10^{-9} ($2.44 \times 10^{-9} \times 1.15$) and HIA/HIC still $<<1.0$.

The health risk due to the emissions of toxic air contaminants associated with even a worst-case ≤ 900 lbs of VOC/mo permit limit will be below their thresholds (i.e., MICR will be below one-in-a-million; and the hazard and chronic indices (HIA and HIC) will be $<< 1.0$: extrapolating to 900 lb VOC/mo would increase the risk by about 10.5 times [$900/86.3$], so the worst case MICR would be $2.81 \times 10^{-9} \times 10.5 = 2.95 \times 10^{-8}$.) Therefore, the equipment is expected to be in compliance with this rule. Along with the 900 lb/month VOC cap, a permit condition will be imposed restricting use of carcinogenic compounds (B59.9) to ensure compliance with this rule.

REG XXX

This facility is not in the RECLAIM program. The proposed project is considered as a “de minimis significant permit revision” to the Title V permit for this facility.

Rule 3000(b)(6) defines a “de minimis significant permit revision” as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAPs) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Criteria Pollutant Emission Thresholds

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NO _x	40
PM ₁₀	30
SO _x	60
CO	220

To determine if a project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is the 2nd revision to the Title V renewal permit issued to this facility on October 13, 2010. The following table summarizes the cumulative emission increases resulting from this permit revision, the second since the Title V renewal permit was issued:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	7 of 7
	APPL NO	524461-524463
	DATE:	4/11/12
	PROCESSED BY JPV	CHECKED BY

Title V Permit Revisions Summary

		HAP	VOC	NO _x	PM ₁₀	SO _x	CO
1 st Revision	Install new curing oven (D53), and vent to new RTO #9 (C55) – P/C (A/N 527418)	0	0	0	0	0	0
	Install new curing oven (D54) , and vent to new RTO #9 (C55) – P/C (A/N 527419)	0	0	0	0	0	0
	Install new RTO #9 (C55), to vent dip coat impregnating room #1 (D8), curing ovens (D53 and D54) - P/C (A/N 527420)	0	0	3	1	0	3
	Modification to dip coat impregnating room #1 (D8) to vent it to new RTO #9 (C55) - P/C (A/N 527421)	0	0	0	0	0	0
	Modification to RTO #7 (C48) to remove venting of dip coat impregnating room #1 (D8) - P/C (A/N 527422)	0	0	0	0	0	0
2 nd Revision	Installation and operation of dip coat impregnating and drying equipment , prepregger #3 (D56-D57) and vented to existing RTO #6 (C47) –P/C (A/N 524462)	0	0	0	0	0	0
	Modification of existing RTO #6 (C47) to vent prepregger #3 (D56-D57) –P/C (A/N 524463)	0	0	0	0	0	0
	Cumulative Total	0	0	3	1	0	3
	Maximum Daily	30	30	40	30	60	220

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered as a “de minimis significant permit revision”.

RECOMMENDATION/CONCLUSION:

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility with Permits to Construct in Section H.